HOMEWORK #9 DUE Wed 3 Nov

**INSTRUCTIONS**:

1. Think of yourself as a data analyst for an NBA team – your job is to identify attributes of players to retain or recruit. Here you focus on two attributes – one for offense and one for defense.
2. *For each answer,* include the items listed below and your code (in an Appendix, organized so that we can relate it to questions). Submit your answers as a pdf (with your name in the file name).
3. Install the `SportsAnalytics` package in R. In that package are data for all 441 NBA (pro basketball) players for the 2009-2010 season.

To get those data into a file called "data", run these commands:

```
library(SportsAnalytics)
data <- fetch_NBAPlayerStatistics(season = "09-10", what =
c("",".Home",".Away"))
```

With that `data` file:

1. Develop and explain a most-efficient and legitimate model to predict "scoring efficiency" per player, defined as (`TotalPoints / TotalMinutesPlayed`). Show:
   a) a comparison of your alternative models
   b) the summary output of your preferred model
   c) evaluation of statistical assumptions for your preferred model
   d) a narrative statement describing your overall result, including:
      1. what you did about collinearity and predictors with different units
      2. how you selected a preferred model
      3. that model's fit to the data
      4. what your results mean for evaluating players

2. Develop and explain a most-efficient and legitimate model to predict the *defensive* rebounds (i.e., `TotalRebounds - OffensiveRebounds`) per player. Show:
   a) a comparison of your alternative models
   b) the summary output of your preferred model
   c) evaluation of statistical assumptions for your preferred model
   d) a narrative statement describing your overall result, including:
      1. what you did about collinearity and predictors with different units
      2. how you selected a preferred model
      3. that model's fit to the data
      4. what your results mean for evaluating players